Some New Alcyonaria from the Indian and Pacific Oceans.—Preliminary Notice.

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The following abstract contains a preliminary account of five new species of the genus *Spongodes* (*Dendronephthya*, Kükenthal); two species of *Siphonogorgia*, of which one is new; twelve species of *Chironephthya*, of which eight are new; and four species of *Solenocaulon*. The specimens described were derived from three sources:—(1) A collection made in the Admiralty Islands by Capt. Bassett-Smith, R.N., when in command of H.M.S. 'Egeria,' and deposited in the British Museum; (2) the first collection of Alcyonaria made in the Bay of Bengal for the Trustees of the Calcutta Museum; (3) a single specimen of *Spongodes* from the China Seas, presented to the Oxford Museum by Capt. Chimmo. Short diagnoses are given of the new species; fuller descriptions and figures being reserved for a future paper.

Family Nephthyidæ.

Genus Spongodes, *Lesson*, 1834.

A. Forms belonging to the Divaricate *cervicornis* group of Kükenthal.

Spongodes Thomsoni, n. sp.

Branches given off from whole or greater part of both sides of stem in one plane; branches subdivided into twigs each bearing bunches of 3–10 polyps; polyp-stalks 1–2 mm. long, borne at right angles to stalk. One spicule projects 1 mm. beyond each polyp head. Spicules of anthocodia in 8 double rows arranged *en chevron*, one large spicule to each point, other smaller spicules irregularly disposed.

Colour: Stem and main branches yellowish white; twigs becoming gradually orange; polyps white.

Hab. Two specimens from Bay of Bengal.

Spongodes elegans, n. sp.

Main stem divides into two branches, each of which divides again into two, and these further subdivide into numerous twigs; two lower branches form a flattened collar nearly encircling the stem. Polyps, borne on stalks 1 mm. long, in clusters of 4–8; one large spicule projects about 2 mm. below each polyp. Anthocodia with 8 double rows of 4–6 spicules arranged *en chevron*, outermost larger and projecting beyond bases of tentacles. Tentacles with double row of colourless spicules.

Colour: Sterile stem a light brick-red: main branches white, shading gradually from pink to red twigs; polyps red with white tentacles.

Hab. Bay of Bengal.

Spongodes biformata, n. sp.

Two lower branches flattened, forming two nearly complete semicircles round stem; above these two lateral branches, and above these again the main stem divides into two branches which further subdivide and bear polyps in bundles of 4–8 on stalks of 1–2 mm. Polyp heads protected by bundle of 3–5 spicules, two or three of which project slightly. On the lower flattened branches polyps alternately borne on stalks or sessile on the edge of the flattened branch. Branches very distinctly in one plane. Spicules of anthocodia *en chevron* in 8 double rows of 4–6 spicules each, all the same size and not projecting beyond bases of tentacles.

Colour: Base nearly white; all other spicules of stem, branches, anthocodia, and tentacles yellow.

Hab. Bay of Bengal.

B. Form belonging to the Divaricate *rigida* group of Kükenthal.

Spongodes rubescens, n. sp.

Whole colony very firm and rigid; main stem divided into numerous short branches which subdivide into smaller branches and twigs bearing polyps in groups of 2–8 at about right angles to branch. Lower branches flattened, one partly encircling the stem, others forming flattened plates with polyps all round the edges. One spicule projects about 1 mm. beyond each polyp. Spicules of anthocodia more or less in 8 double rows, but chevron arrangement not very distinct; spicules projecting beyond bases of tentacles. Tentacles with double rows of deep red spicules.

Colour: Stem and main branches white; secondary branches and twigs yellow; below the bunches of polyps the spicules show a red core, and there is a gradual transition from yellow to red; polyps red.

Hab. Bay of Bengal.

C. Form belonging to Umbellate *florida* group of Kükenthal.

Spongodes Chimmoi, n. sp.

Colony rigid, developed in one plane. Stem with long stolons, some reaching a length of 4·0 cm. Branches given off all round the stem, the lower ones at right angles and the upper ones vertical; lower branches not flattened. Polyp-bearing twigs closely crowded, giving a compact appearance and regular outline to colony. Polyps in clusters of 8–16, at about right angles to stalk, each polyp supported by a bundle of (generally) 3 spicules of

which one projects 0·5–1·0 mm. Spicules of anthocodia in 8 double rows of 5–6 each, all about the same size and not projecting beyond bases of tentacles.

Colour : Stem and main branches white, gradually shading in the terminal twigs to crimson ; polyps white. In the lowermost branches both twigs and polyps are white.

Hab. China Seas (*Capt. Chimmo*).

Family Siphonogorgiidæ (*Kükenthal*).

Genus Chironephthya.

Chironephthya variabilis, *Hickson*.

Fragments of three specimens from the Bay of Bengal.

Chironephthya pendula, var. indica, n. var. = *Siphonogorgia pendula*, Studer.

Differs from Studer's specimen in the immense size of the spicules of the partition-walls.

Hab. Bay of Bengal.

Chironephthya siphonogorgica, n. sp.

Branches few in number, directed obliquely upwards and not further subdivided. Polyps borne directly on main stem and branches. Each polyp completely retractile within a definite calyx, which can be closed over the retracted polyp. Spicules of stem and branches disposed longitudinally and somewhat loosely packed together. Stem spicules bright coral-red ; polyp spicules bright yellow : tentacles colourless.

Hab. Two specimens from Bay of Bengal.

Chironephthya flavocapitata, n. sp.

Branches from main stem long and slender, only slightly subdivided, tending to droop downwards. Polyps directed nearly vertically upwards, not retractile. Tentacles can be folded over oral disc. Polyp spicules : crown with about six transverse rows ; points with two large spicules arranged *en chevron* and smaller spicules irregularly disposed between them. Tentacles with a single row of small thorny spicules placed transversely.

Colour : Stem and branches pure white, with a few pale pink spicules interspersed ; polyps deep orange ; tentacles colourless.

Hab. Macclesfield Bank, Admiralty Islands.

Chironephthya planoramosa, n. sp.

The whole colony grows like an espalier pear tree ; branches at nearly right angles to stem but inclined to bend downwards. Polyps spirally arranged with a terminal bunch of five ; not retractile. Polyp spicules :

crown with about 8 transverse rows; points with about 3–5 spicules arranged *en chevron*; tentacles with a single row of irregular transverse spicules.

Colour: Base of stem rosy purple; the rest of the colony a pure white.

Hab. Macclesfield Bank, Admiralty Islands.

Chironephthya Hicksoni, n. sp.

Stem erect, cylindrical, dividing into two main branches, from which are given off short thick branches, tending to be directed upwards and very slightly further subdivided. Polyps on all branches, more numerous on terminal twigs, not retractile. Polyp spicules: crown with about 5 transverse rows; points with 2 or 3 spicules arranged *en chevron* and smaller ones irregularly disposed between them; tentacles with a double row of spicules more or less dovetailed into each other.

Colour: A uniform dull yellow, the tentacles only coloured a deep purple.

Hab. Macclesfield Bank, Admiralty Islands.

Chironephthya purpurea, n. sp.

Numerous branches; all directed practically vertically upwards, given off from the sterile stem; secondary branches few and small. Polyps borne on the stem, branches, and twigs; more numerous on twigs, directed vertically upwards and not retractile. Polyp spicules: crown with 7 or 8 transverse rows; points with 3 or 4 spicules arranged *en chevron*, but when four are present there is very constantly only one spicule on one side of the point and three on the other; tentacles with a single row of small thorny spicules placed transversely.

Colour: Stem and branches white, becoming cream in the terminal twigs; polyps, including the tentacles, a deep purplish red.

Hab. Tizard Reef, Admiralty Islands.

Chironephthya annulata, n. sp.

Colony rigid, short thick branches given off all around the stem, only one or two of which are long enough to further subdivide. Polyp spicules: crown with about 6 transverse rows, points with 3–5 spicules somewhat irregularly arranged *en chevron*, of which one is generally larger than the others; tentacles with scattered small warty spicules.

Colour: Stem and branches deep crimson, terminal twigs with a few large conspicuous cream-coloured spicules, and shaded from crimson to buff-yellow, terminating in yellow calices; polyps crimson.

Hab. Admiralty Islands.

Chironephthya gracilis, n. sp.

Stem divides into two main branches directed vertically upwards, from which several short, very slender branches arise. Polyps borne on all branches,

those on the main branches sessile and single, those on the terminal twigs in groups and generally on short stalks. Polyp spicules: crown with about 5 transverse rows; points with 3–5 spicules arranged *en chevron*, larger than those of the crown and with more pronounced warts; tentacle spicules comparatively large.

Colour: Stem and branches deep red; polyps bright orange.

Hab. Admiralty Islands.

Chironephthya retractilis, n. sp.

Colony consisting of one main erect branch and two short branches given off at about 1·75 cm. from base. Polyps borne all round stem; completely retractile within calyx, which projects from stem and closes over the polyp by all the spicules of the calyx converging in a point and not folding over as in a *Siphonogorgia*. The polyps contract in the same way. Polyp spicules: crown with about 5 transverse rows; points with 4 spicules arranged *en chevron*.

Colour: Stem and branches cream, with crimson-purple polyps.

Hab. Admiralty Islands.

Genus Siphonogorgia.

Siphonogorgia rotunda, n. sp.

Stem and branches solid, smooth, rounded; branching not very great. Polyps borne all round stem, main and sub-branches; lower part of stem barren. Polyps nearly completely retractile, borne at right angles to stem and branches. In the polyp there are about 5 spicules in each point directed vertically upwards, below these about 8 spicules arranged *en chevron*, and below these a crown of about 6 transverse rows.

Colour: Stem and branches flesh-coloured; polyps white.

Hab. Bay of Bengal.

Siphonogorgia pustulosa, *Studer*.

Several branches of this species occur in the British Museum Collection.

Hab. Admiralty Islands.

Family Briareidæ.

Genus Solenocaulon.

Solenocaulon tortuosum, *Gray*.

In the collection made by the Trustees of the Calcutta Museum this species occurs in three varieties:—

In variety A, the lateral branches are short and come off in pairs on

opposite sides of the lateral holes. The polyps are non-retractile and project beyond conical calices.

In variety B, the lateral branches come off very regularly on alternate sides of the main trunk and are tubular at their commencement, becoming two parallel branches facing one another. Polyps non-retractile, but conical; calices not so much developed as in A.

In variety C, the lateral branches are borne on opposite sides of the lateral holes, and the latter are exactly opposite one another so that a front view of the colony looks like the tail of a kite, and a side view shows a series of holes right through the main trunk. Polyps completely retractile.

Hab. Bay of Bengal.

Solenocaulon ramosa, *Hickson.*

A colony 85 cm. long agrees with Hickson's diagnosis in every point except the greater size of the colony and the absence of all colouring-matter.

Hab. Bay of Bengal.